PROBLEMAS SESIÓN 4 : 2.18, 2.19

2.18)

```
sumaE: pushl /ebp
       movl /esp, /ebp
       movw 8(/ebp), /eax      #/eax = i
       movl 12(/ebp), /ecx     #/ecx = j
       sall $2, /ecx           #/ecx = 4j
       leal (,/eax,8), /eax    #/eax = 8i
       subl /eax, /edx         #/edx = 8i - i = 7i
       leal (/eax,/eax,4), /eax  #/eax = i + 4i = 5i
       movl mat2 (/ecx,/eax,4), /eax #@mat2 + 4j + (5i*4)
       addl mat1 (/ecx,/edx,4), /eax #@mat1 + 4j + (7i*4)
       movl /ebp, /esp
       popl /ebp
       ret
```

a). M[filas][columnas]

@mat1 [M][N] → N = 7

@mat2 [N][M] → M = 5

b) 13

c) 13

d) 6

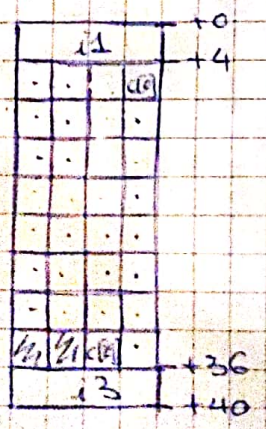
e) $\frac{1}{0,8} \rightarrow 1,25$ $\frac{1}{0,5} \rightarrow 2$ → 7·1,25 + 2·6 → 20,75 ciclos

f) $\frac{1}{0,9} \rightarrow 1,\widehat{1}$ $\frac{1}{0,6} \rightarrow 1,6$ → $7 \cdot 1,\widehat{1} + 1,6 \cdot 6 \rightarrow 17,\widehat{7}$ ciclos

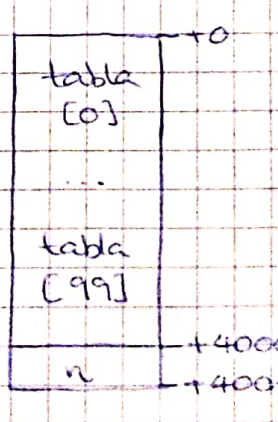
$\frac{20,75}{17,78} \rightarrow 1,167x$

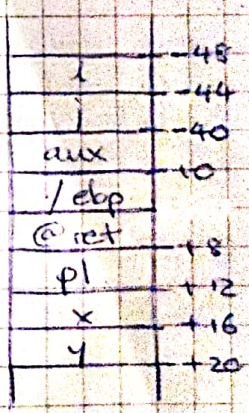
2.19) a) b)

Sx:



S2:





BA

c) return (*x+aux.i3);

```
movl 12(%ebp), %eax
movl (%eax), %eax
addl -4(%ebp), %eax
```

d) aux.i1 = F(&(*p1).tabla[j], 4);

```
pushl 16(%ebp)
movl 8(%ebp), %eax   # p1
movl -44(%ebp), %ecx  # j
imull $40, %ecx      # tabla[j]
addl %eax, %ecx
pushl %ecx
call F
addl $8, %esp
movl %eax, -40(%ebp)
```

e) i = j * 4;

```
movl -44(%ebp), %eax
movl 16(%ebp), %ecx
imull %eax, %ecx
movl %ecx, -48(%ebp)
```

f) aux.c2[i] = aux.c2[23];

```
movb -13(%ebp), %al
leal -40(%ebp), %ecx
addl $4, %ecx
addl -48(%ebp), %ecx
movb %al, (%ecx)
```

g) for(i=0, (i<4) && (i<(*p1).n); i=i+5)
(*p1).tabla[i].i1 = (*p1).tabla[i].i3 + i;

```
movl $0, %eax          # i=0
movl 8(%ebp), %ecx     # p1
pushl %ebx
for: cmpl 16(%ebp), %eax   # i<4
     jge fifor
     cmpl 4000(%ecx), %eax  # i < (*p1).n
     jge fifor
     imull $40, %eax, %edx  # tabla[i].i1
     movl 36(%edx), %ebx    # (*p1).tabla[i].i3
     addl %eax, %ebx        # (*p1).tabla[i].i3 + i
     movl %ebx, (%edx)      # ... = ...
     addl $5, %eax          # i = i+5
     jmp for
fifor: popl %ebx
```

→ addl %ecx, %edx #(*p1).tabla[].i1

h) if(aux.i1 != 4) aux.i3 = i;
else aux.i3 = j;

```
     movl -40(%ebp), %eax
     movl 36(%eax), %edx
t:   cmpl %eax, 16(%ebp)
     je else
     movl -48(%ebp), %edx
     jmp fi
else movl -44(%ebp), %edx
fi:
```

i) i=0
while(aux.c2[i] != '.'){
aux.c2[i] = '#';
i++
}

```
     movl $0, %eax
     leal -40(%ebp), %ecx
while: cmpl $'.', 4(%ecx,%eax)
     je fiwhile
     movl $'#', 4(%ecx,%ecx)
     incl %eax
     jmp while
fiwhile:
```